

IAP5 Rec'd PCT/PTO 31 JUL 2006

【Sequence Listing】

<110> Lifenza Co., Ltd.

5 <120> PROTEIN WITH ACTIVITY OF HYDROLYZING DEXTRAN, STARCH, MUTAN,
INULIN AND LEVANN, GENE ENCODING THE SAME, CELL EXPRESSING THE
SAME, AND PRODUCTION METHOD THEREOF

<150> KR2004-0006185

<151> - 2004-01-30

10

<160> 4

<170> KopatentIn 1.71

15

<210> 1

<211> 608

<212> PRT

<213> Artificial Sequence

20

<220>

<223> S. cerevisiae/pYES2-LSD1

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Thr Arg Ile Val Leu Val Asn Ile Leu Leu Ala Thr Leu Val Leu Gly
20 25 30

30

Ala Ala Val Leu Pro Arg Asp Asn Arg Thr Val Cys Gly Ser Gin Leu
35 40 45

Cys Thr Trp Trp His Asp Ser Gly Glu Ile Asn Thr Gly Thr Pro Val
35 50 55 60

Gln Ala Gly Asn Val Arg Gin Ser Arg Lys Tyr Ser Val His Val Ser

65 70 75 80

Leu Ala Asp Arg Asn Gln Phe Tyr Asp Ser Phe Val Tyr Glu Ser Ile

85 90 95

5

Pro Arg Asn Gly Asn Gly Arg Ile Tyr Ser Pro Thr Asp Pro Pro Asn

100 105 110

Ser Asn Thr Leu Asn Ser Ser Ile Asp Asp Gly Ile Ser Ile Glu Pro

10 115 120 125

Ser Leu Gly Ile Asn Met Ala Trp Ser Gln Phe Glu Tyr Arg Arg Asp

130 135 140

15 Val Asp Ile Lys Ile Thr Thr Ile Asp Gly Ser Ile Leu Asp Gly Pro

145 150 155 160

Leu Asp Ile Val Ile Arg Pro Thr Ser Val Lys Tyr Ser Val Lys Arg

165 170 175

20

Cys Val Gly Gly Ile Ile Ile Arg Val Pro Tyr Asp Pro Asn Gly Arg

180 185 190

Lys Phe Ser Val Glu Leu Lys Ser Asp Leu Tyr Ser Tyr Leu Ser Asp

25 195 200 205

Gly Ser Gln Tyr Val Thr Ser Gly Gly Ser Val Val Gly Val Glu Pro

210 215 220

30 Lys Asn Ala Leu Val Ile Phe Ala Ser Pro Phe Leu Pro Arg Asp Met

225 230 235 240

Val Pro His Met Thr Pro His Asp Thr Gln Thr Met Lys Pro Gly Pro

245 250 255

35

Ile Asn Asn Gly Asp Trp Gly Ser Lys Pro Ile Leu Tyr Phe Pro Pro

260 265 270

Gly Val Tyr Trp Met Asn Glu Asp Thr Ser Gly Asn Pro Gly Lys Leu
275 280 285

5 Gly Ser Asn His Met Arg Leu Asp Pro Asn Thr Tyr Trp Val His Leu
290 295 300

Ala Pro Gly Ala Tyr Val Lys Gly Ala Ile Glu Tyr Phe Thr Lys Gln
305 — 310 315 320

10 Asn Phe Tyr Ala Thr Gly His Gly Val Leu Ser Gly Glu Asn Tyr Val
325 330 335

Tyr Gln Ala Asn Ala Ala Asp Asn Tyr Tyr Ala Val Lys Ser Asp Gly
15 340 345 350

Thr Ser Leu Arg Met Trp Trp His Asn Asn Leu Gly Gly Gln Thr
355 360 365

20 Trp Phe Cys Met Gly Pro Thr Ile Asn Ala Pro Pro Phe Asn Thr Met
370 375 380

Asp Phe Asn Gly Asn Ser Asn Ile Ser Ser Arg Ile Ser Asp Tyr Lys
385 390 395 400

25 Gln Val Gly Ala Tyr Phe Phe Gln Thr Asp Gly Pro Glu Ile Tyr Glu
405 410 415

Asp Ser Val Val His Asp Val Phe Trp His Val Asn Asp Asp Ala Ile
30 420 425 430

Lys Thr Tyr Tyr Ser Gly Ala Ser Ile Ser Arg Ala Thr Ile Trp Lys
435 440 445

35 Cys His Asn Asp Pro Ile Ile Gln Met Gly Trp Thr Ser Arg Asn Leu
450 455 460

Thr Gly Ile Ser Ile Asp Asn Leu His Val Ile His Thr Arg Tyr Phe
465 470 475 480

Lys Ser Glu Thr Val Val Pro Ser Ala Ile Ile Gly Ala Ser Pro Phe
5 485 490 495

Tyr Ala Ser Gly Met Thr Val Asp Pro Ser Glu Ser Ile Ser Met Thr
500 505 510

Ile Ser Asn Val Val Cys Glu Gly Leu Cys Pro Ser Leu Phe Arg Ile
10 515 520 525

Thr Pro Leu Gln Ser Tyr Asn Asn Leu Val Val Lys Asn Val Ala Phe
530 535 540

15 Pro Asp Gly Leu Gln Thr Asn Pro Ile Gly Ile Gly Glu Ser Ile Ile
545 550 555 560

Pro Ala Ala Ser Gly Cys Thr Met Asp Leu Glu Ile Thr Asn Trp Thr
20 565 570 575

Val Lys Gln Lys Val Thr Met Gln Asn Phe Gln Ser Gly Ser Leu
580 585 590

Gly Gln Phe Asp Ile Asp Gly Ser Tyr Trp Gly Gln Trp Ser Ile Asn
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<212> DNA
<213> Artificial Sequence

35 <220>
<223> S. cerevisiae/pYLS01

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25 ccgacggtttc gcaatatgtg acctctggag ggagcgttgt tgggtggag ccaaaaaatg 720
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	acggaaaactc taatatttcc agccoggattt gtgactataa gcaggttggc gcttattttt	1260
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	ggaagtgtca caatgaccgg atcatacaga tgggctggac gtcacgaaat ctcacccgaa	1440
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	taaactaaag ctattccat tcacctgagt attttcggtt gttcaatgag ttcttgttac	1920
30	tgtggggcc ctgttagtg gtaaaagttag agggacttgt cctcgccggg cgccaaaggaa	1980
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<212> DNA
<213> Artificial Sequence

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<220>
<223> L. starkeyi DX-F primer(sense)

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18

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<211> 23
<212> DNA
<213> Artificial Sequence

20 <220>
<223> L. starkeyi DX-R primer(antisense)

<400> 4

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23

25